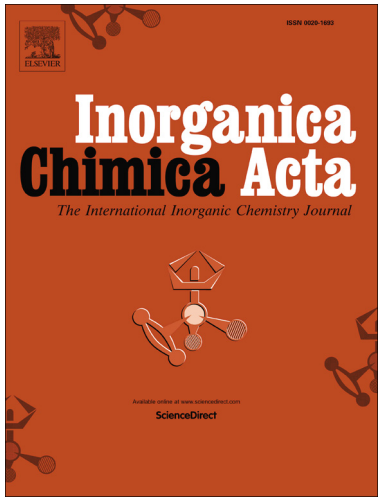

Research paper

Palladium(II) Catalyzed Suzuki C-C Coupling Reactions with Imino- and Amino-phosphine Ligands

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Palladium(II) Catalyzed Suzuki C-C Coupling Reactions with Imino- and Amino-phosphine Ligands

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ABSTRACT:

A new series of bidentate PN type imino- (**1-3**) and amino-phosphine ligands (**4-6**) and their palladium(II) complexes [Pd(PN)Cl_2] (**1a-6a**) have been synthesized and fully characterized using spectroscopic and analytical methods, including ^{31}P, ^{1}H, ^{13}C NMR and FTIR spectroscopy and high resolution mass spectroscopy. The catalytic activities of the Pd(II) complexes were investigated for the Suzuki C-C coupling reactions of phenylboronic acid with aryl bromides using a substrate to catalyst ratio of 500/1. The effect of base, temperature and solvent has been investigated, and the highest reaction rates were observed at 80°C in dimethylformamide (DMF) with K_2CO_3 as the base in 12 h. Under optimized reaction conditions, generally higher coupled product was obtained with substituted aryl bromides,

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